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DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/813,090

Applicant(s)

FINA, RAFFAELE

Examiner

Leo T. Hinze

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2005 and 20 July 2005.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-18 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 9-18 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 21 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/130,637.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____
 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
 5) ☐ Notice of Informal Patent Application (PTO-152)
 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 9-11, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Germann, US 5,282,417 (Germann) in view of Cushner et al., US 5,804,353 (Cushner).

a. Regarding claim 9:

Germann teaches a rotary printing machine comprising an impression cylinder (1, Fig. 1), a plate cylinder (2, Fig. 1) contacting the impression cylinder, said plate cylinder carrying at least one printing plate ("carries two intaglio printing plates", col. 2, ll. 37-38), said printing plate depositing ink on to a substrate to be imprinted, and at least one inking cylinder (10, Fig. 1) with an associated ink duct (20, 21, 22, Fig. 1) for inking the plate cylinder either directly or indirectly, wherein the inking cylinder is formed of a cylinder carrying at least one inking plate around its circumference, said inking plate transferring ink, either directly or indirectly, from said ink duct on to said printing plate, wherein said inking plate has a substantially cylindrical form thus defining an inner central area. Germann is silent as to the specific details of the inking

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plate, although Germann does teach that the inking cylinder 10 can preferably carry plates consisting of a somewhat elastic material, so called flexoplates, which are suitable for both direct and indirect inking (col. 4, lines 25-30), and that the inking plates should be “cut out in a known way in such a manner that they have relief zones, the circumference of which corresponds exactly to the regions of the intaglio printing plates to be inked” (col. 3, ll. 30-35).

Germann does not teach said inking plate being formed of at least a base plate having an outer major surface to be directed away from the central area and polymer material defining an outer layer of deposited material which is deposited directly or indirectly on said base plate over a majority of the outer surface of the base plate, and wherein the inking plate includes ink transporting relief surfaces exclusively in the outer layer, the surfaces having limits corresponding to the outlines of surfaces to be inked on the plate cylinder.

Cushner teaches an inking plate, wherein said plate has a substantially cylindrical form (“cylindrical form”, col. 4, line 30) thus defining an inner central area, said inking plate being formed of at least a base plate (“flexible support”, col. 3, line 35) having an outer major surface to be directed away from the central area and polymer material defining an outer layer of deposited material (“reinforced elastomeric top layer”, col. 3, lines 37-38) which is deposited directly or indirectly (“spraying”, col. 4, line 24) on said base plate over a majority of the outer surface of the base plate, and wherein the inking plate includes ink transporting relief surfaces exclusively in the outer layer, the surfaces having limits corresponding to the outlines of surfaces to be inked on the plate cylinder (“relief pattern... formed only in the top layer”, col. 13, lines 10-12). Such plates are easier and faster to manufacture than prior art plates (col. 1, lines 42-42).

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It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the inking plates of Germann such that said inking plate is formed of at least a base plate having an outer major surface to be directed away from the central area and polymer material defining an outer layer of deposited material which is deposited directly or indirectly on said base plate over a majority of the outer surface of the base plate, and wherein the inking plate includes ink transporting relief surfaces exclusively in the outer layer, the surfaces having limits corresponding to the outlines of surfaces to be inked on the plate cylinder, because Cushner teaches that such inking plates are easier and faster to manufacture than prior art plates.

b. Regarding claim 10, the combination of Germann and Cushner teaches all that is claimed as discussed in the rejection of claim 9 above. Cushner also teaches wherein the inking plate further comprises another layer of polymer material defining an inner layer of deposited material which is interposed between the base plate and the outer layer (“elastomeric intermediate layer”, col. 3, line 36).

c. Regarding claim 11, the combination of Germann and Cushner teaches all that is claimed as discussed in the rejection of claim 9 above. Cushner also teaches wherein the inking plate further comprises a layer of adhesive which is interposed between the base plate and the layer of polymer material (“thin adhesive layer”, col. 18, line 9).

d. Regarding claim 16, the combination of Germann and Cushner teaches all that is claimed as discussed in the rejection of claim 9 above. Cushner also teaches the cutting of the deposited material occurs when the base plate is held in a cylindrical form so as to permit mounting on the

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cylinder without substantial deformation, from an as-cut state, of the base plate or the deposited material (col. 4, lines 38-44).

e. Regarding claim 18, the combination of Germann and Cushner teaches all that is claimed as discussed in the rejection of claim 9 above. Germann also teaches wherein the machine is an intaglio printing machine (col. 1, line 10).

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Germann in view of Cushner as applied to claim 9 above, and further in view of Fan et al., US 5,607,814 (Fan) and Recchia et al., US 3,951,657 (Recchia).

The combination of Germann and Cushner teaches all that is claimed as discussed in the rejection of claim 9 above, except wherein the polymer material is a PVC composition material that has a shore D hardness of 50.

Fan teaches a printing plate that is sensitive to laser radiation (col. 1, lines 6-12) and that has polyvinyl chloride in the IR sensitive layer (col. 6, line 26). Such a material composition provides printing plates with known good printing characteristics that can be produced quickly and economically by using digital imaging means (col. 2, lines 43-45).

Recchia teaches a process for making a printing plate (col. 9, line 9) that has a hardness between Shore A 50 and Shore D 60. Recchia teaches that plates with a Shore hardness in this range offer excellent printing characteristics and resistance to wear (col. 2, lines 16-18).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to further modify Germann such that the polymer material is PVC, because

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Fan teaches that PVC provides printing plates with known good printing characteristics that can be produced quickly and economically by using digital imaging means.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to additionally further modify Germann such that the hardness of the material is Shore D 50, because Recchia teaches that printing plates having this hardness offer excellent printing characteristics and resistance to wear.

4. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Germann in view of Cushner as applied to claim 10 above, and further in view of Fan, Recchia, and Allen, US 4,264,705 (Allen).

a. Regarding claim 13:

The combination of Germann and Cushner teaches all that is claimed as discussed in the rejection of claim 10 above, except wherein the outer layer is softer than the inner layer.

Allen teaches that while the backing layer of multiplayer printing plates is usually of lower hardness than the printing layer to allow the plate to conform better to irregular surfaces, it is sometimes advantageous to have a backing that is harder than the printing layer, depending upon a variety of factors (col. 2, lines 5-20). Allen teaches that often harder backing material gives better print quality than soft backing material since the plate has less tendency to deform from shear forces developed during high speed printing (col. 2, lines 13-17).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to further modify Germann such that outer layer is softer than the inner layer, because Allen teaches that often harder backing material gives better print quality than soft

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backing material since the plate has less tendency to deform from shear forces developed during high speed printing.

b. Regarding claim 14:

The combination of Germann and Cushner teaches all that is claimed as discussed in the rejection of claim 13 above, except the inner layer had a Shore D hardness of 50 and the outer layer a Shore A hardness of 70.

Allen teaches that while the backing layer of multiplayer printing plates is usually of lower hardness than the printing layer to allow the plate to conform better to irregular surfaces, it is sometimes advantageous to have a backing that is harder than the printing layer, depending upon a variety of factors (col. 2, lines 5-20). Allen teaches a range of hardness for the layers between Shore A 30 and 90 (col. 8, line 13). Allen also teaches an example where the printing layer has a hardness of Shore A 50 and the backing layer has a hardness of Shore A 90.

It has been held that optimization of ranges is not sufficient to prove patentability of an invention over the prior art. MPEP § 2144.05 (II).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to further modify Germann such that the inner layer had a Shore D hardness of 50 and the outer layer a Shore A hardness of 70 through the course of routine experimentation, because a person having ordinary skill would recognize that the specific hardness needed will vary depending on the exact printing conditions, and these values are within the ranges taught by Allen and Recchia as suitable for flexographic printing plates and backing layers.

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5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Germann in view of Cushner as applied to claim 9 above, and further in view of Fan.

The combination of Germann and Cushner teaches all that is claimed as discussed in the rejection of claim 9 above, except the polymer material is made of PVC.

Fan teaches a flexographic printing plate that is sensitive to laser radiation (col. 1, lines 6-12) and that has polyvinyl chloride in the IR sensitive layer (col. 6, line 26). Such a material composition provides flexographic printing plates with known good printing characteristics that can be produced quickly and economically by using digital imaging means (col. 2, lines 43-45).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to further modify Germann such that the polymer material is PVC, because Fan teaches that PVC provides flexographic printing plates with known good printing characteristics that can be produced quickly and economically by using digital imaging means.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Germann in view of Cushner as applied to claim 9 above, and further in view of Koelsch, US 6,318,261 (Koelsch).

The combination of Germann and Cushner teaches all that is claimed as discussed in the rejection of claim 9 above, except wherein the base plate comprises two ends for clamping the inking plate onto the inking cylinder and wherein polymer material is not deposited on the said two ends of the base plate. Both Germann and Cushner are silent as to the manner of attaching the plate to a cylinder.

Koelsch teaches a cylinder (24, Fig. 2) with a slot (28, Fig. 2) and means for clamping (70, Fig. 4) at least one flexographic plate (col. 1, line 6). Such a means for clamping offers

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improved strength and rigidity and does not interfere with the flexographic printing process (col. 2, lines 19-33).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Germann to include two ends for clamping the inking plate onto the inking cylinder and wherein polymer material is not deposited on the said two ends of the base plate, because Koelsch teaches that such a cylinder and clamping means offer improved strength and rigidity and does not interfere with the flexographic printing process.

Response to Arguments

7. Applicant's arguments filed 20 July 2005 with respect to claims 9-18 have been considered but are not persuasive.

8. In response to applicant's argument on pp. 5-6 that there is no indication or suggestion that the plate of Cushner could be used as the inking plate on Germann, the examiner appreciates the applicant's argument that the terms "flexographic", "printing plate" and "inking plate" may, in certain circumstances, have special meaning in the art. However, in this case, Germann, while silent as to the physical structure and composition of the inking plates (4, 10, Fig. 1), does specify that the inking plates shall be "cut in a known way in such a manner that they have relief zones, the circumference of which corresponds exactly to the regions of the intaglio printing plates to be inked in the respective colors" (col. 3, ll. 31-34). The requirement in claim 9 of "relief surfaces... corresponding to the outlines of surfaces to be inked on the plate cylinder" implies that the claimed inking plate carries an image that is identical to that which is desired to be printed and is therefore essentially a printing plate, as opposed to an anilox-type metering

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plate that has grooves or other ink-carrying recesses in a uniform pattern over the whole outer surface. Because Germann requires that the inking plates have relief zones corresponding exactly to the regions of the plates to be inked, a person having ordinary skill in the art would look to plates that also have relief zones corresponding exactly to the regions to be inked, such as the plate taught by Cushner.

9. In response to applicant's argument on p. 7 regarding the meaning in the art of the term "flexographic," and applicant's oral arguments in the telephone interview of 17 August 2005 regarding the meaning of "ink transporting relief surfaces", the following examples show that equipment used for one type of printing may be suitable for another, and therefore that such terms as "flexographic", "intaglio" and "lithographic" may imply certain general features and methods of operation, but that a person having ordinary skill in the art would recognize that certain aspects of various styles of printing would be applicable to other styles of printing.

a. Yang et al., US 5,925,500 (Yang) teaches that laser imageable plates are useful for flexography, lithography, and offset printing (col. 1, ll. 16-17), and further, that flexographic plates are "relief plates" (col. 1, l. 28).

b. Figov et al., US 6,352,816 (Figov) teaches that printing members can be used in gravure and flexo printing presses (col. 1, ll. 14-16).

c. Barker, US 3,832,948 (Barker) teaches a method and apparatus for making a surface in relief that is particularly suited for generating letter press and intaglio as well as planographic plates (col. 2, ll. 60-63).

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d. Lynch et al., US 4,565,771 (Lynch) teaches that production of gravure plates can be accomplished by the same method as that of letterpress plates (col. 1, ll. 34-39).

10. Regarding applicant's argument on p. 8 that the position of the plate in the machine creates a structural feature of the plate that would differentiate it from an otherwise identical plate placed in a different position in the machine and used in a different way, the examiner recognizes that while certain terms of the art such as "printing plate" or "inking plate" may sometimes imply certain structural features, in this instance, as discussed in items 8 and 9 and the rejections of the claims above, such a functional limitation in the claims is not sufficient to patentably distinguish the instant invention over the prior art. In this case, despite Cushner's nomenclature, calling something a "flexographic" plate does not mean that a person having ordinary skill in the art would not look to such a plate if it otherwise fulfilled the desired structural requirements.

11. Regarding applicant's argument on pp. 8-9 that special treatment of the surface is required for a plate to have the desired oilophilic/hydrophobic characteristics, there are no claim limitations specifying any surface treatment for the plate, nor is there any discussion of a special surface treatment in the specification.

12. Regarding applicant's arguments on p. 9 that the similarity between the plate taught by Cushner and the "flexoplates" specified in Germann is only directed to a plate formed of an elastic material, the limitations in claim 9 on the structure of the plate do not seem to imply any structure of the plate that is not taught by the combination of Germann and Cushner, and the fact that Cushner uses the term "flexographic" to describe the plate does not necessarily limit the

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plate described by Cushner solely to flexographic printing, as discussed in the rejection of the claims and items 8 and 9 above.

Conclusion

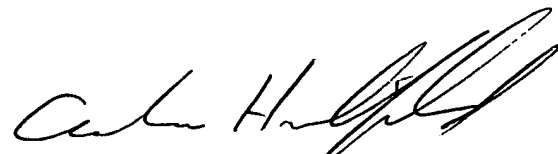
13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is (571) 272-2167. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leo T. Hinze
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03 September 2005


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